



**FAST FACTS**

- Maryland's infant mortality rate was 6.7 per 1,000 live births in 2010, 7% lower than the 2009 rate of 7.2 and a historic low for the State.
- The mortality rate for black infants fell by 13% between 2009 and 2010, while the rate remained unchanged for white infants.
- The overall reduction in the infant mortality rate was driven by large declines in the number of infant deaths in Baltimore City and Montgomery County.
- The leading causes of infant death were low birth weight, congenital abnormalities and SIDS.
- The average infant mortality rate has fallen by 4% over the past decade, with a more rapid decline seen for white infants than for black infants.
- Garrett and Prince George's Counties are the only jurisdictions in the State where infant mortality rates declined significantly over the past decade. The rate increased significantly in Dorchester County.

# Maryland Vital Statistics

## Infant Mortality in Maryland, 2010

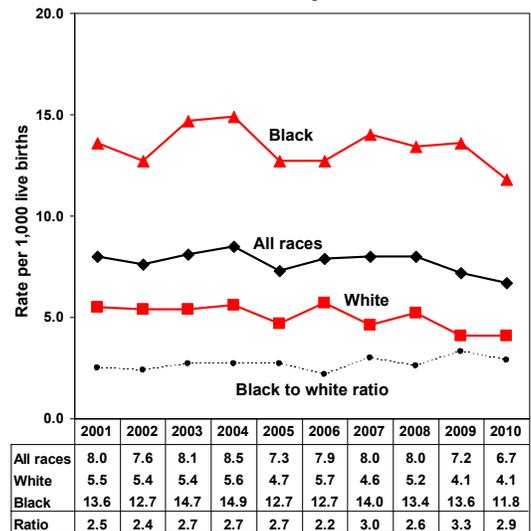
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### Trends

The infant mortality rate in Maryland fell to 6.7 per 1,000 live births in 2010, the lowest rate ever recorded in Maryland. A total of 496 infants died in 2010 compared with 541 in 2009. There were 178 deaths among infants born to white women, 295 deaths among infants born to black women, 17 deaths among infants born to Asian women, and 42 deaths among infants born to women of Hispanic origin, who may be of any race.

The 7% decline in the infant mortality rate between 2009 and 2010 follows a 10% decline in the rate between 2008 and 2009. While a fall in the white infant mortality rate resulted in the overall decline seen in 2009, a fall in the black rate was responsible for the 2010 decline. The black infant mortality rate fell from 13.6 per 1,000 live births in 2009 to 11.8 per 1,000 live births in 2010, a 13% decline, while the white infant mortality rate remained unchanged at 4.1 per 1,000 live births (Figure A and Table 1). The infant mortality rate was 3.2 per 1,000 live births among Asians and 4.1 per 1,000 live births among Hispanics. While the overall rate for Hispanics was identical to the white rate, data from earlier years have shown a high infant mortality rate in Maryland among Hispanic teens below the age of 18.

**Figure A. Infant Mortality Rates by Race and Black to White Ratio, Maryland, 2001-2010.**



Despite the large declines in infant deaths over the past two years, infant mortality rates have fallen only slightly in Maryland over the past decade. The rate fell from an average of 7.9 per 1,000 live births in the years 2001-2005 to an average of 7.6 per 1,000 live births in the years 2006-2010, a 4% decline. The average rate for whites fell by 10%, while the average rate for blacks fell by 6%. Only the decline among white infants was statistically significant (Table 1).

### Age at Time of Death

The neonatal mortality rate (deaths to infants under 28 days of age per 1,000 live births) fell from 5.1 in 2009 to 4.7 in 2010, an 8% decline (Table 1). This was the result of a 14% decline in the black neonatal mortality rate, which fell from 9.8 in 2009 to 8.4 in 2010. The white neonatal mortality rate remained unchanged at 2.8. The overall postneonatal mortality rate (deaths from 28 days through 11 months of age per 1,000 live births) declined slightly, from 2.1 in 2009 to 2.0 in 2010. The white postneonatal mortality rate increased from 1.2

**Table 1. Infant, Neonatal and Postneonatal Mortality Rates\* for Selected Years, Maryland.**

	Rate by year		Average rate	
	2009	2010	2001-05	2006-10
<b>Infant mortality</b>				
All races**	7.2	6.7	7.9	7.6
White	4.1	4.1	5.3	4.8 ***
Black	13.6	11.8	13.9	13.1
<b>Neonatal mortality</b>				
All races**	5.1	4.7	5.7	5.5
White	2.8	2.8	3.8	3.4 ***
Black	9.8	8.4	10.0	9.5
<b>Postneonatal mortality</b>				
All races**	2.1	2.0	2.2	2.1
White	1.2	1.3	1.5	1.4
Black	3.8	3.4	3.8	3.7

\*Per 1,000 live births

\*\*Includes races other than White and Black

\*\*\*Rates for 2001-2005 and 2006-2010 differ significantly

to 1.3 during this time period, while the black rate fell from 3.8 to 3.4, a 10% decline. Overall neonatal and postneonatal mortality rates each declined by 4% between the periods 2001-2005 and 2006-2010. Both rates have fallen more rapidly among white infants than among

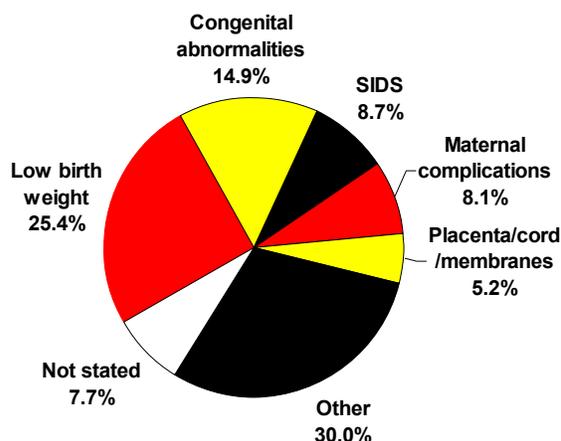
black infants between these two time periods. Only the white neonatal mortality rate showed a statistically significant decline, falling from an average of 3.8 in the earlier time period to 3.4 in the latter period.

### Causes of death

The three leading causes of infant death in 2010 were disorders relating to short gestation and unspecified low birth weight (LBW), congenital abnormalities, and sudden infant death syndrome (SIDS) (Figure B). In rank order, congenital abnormalities, LBW and maternal complications of pregnancy were the three leading causes of death among white infants, while LBW, congenital abnormalities and SIDS were the three leading causes of death among black infants. At the time that this report was prepared, the Maryland Vital Statistics Administration had not yet received cause of death information for 38 Maryland resi-

dent infants who died in jurisdictions outside Maryland. Since this was mainly the result of a delay in cause of death coding for deaths that occurred in the latter part of the year, the missing causes of death are likely to be randomly distributed and not affect the ranking of the leading causes.

**Figure B. Leading Causes of Infant Death, Maryland, 2010.**



Cause-specific mortality rates continue to be higher for black infants than white infants for all leading causes of death. Compared with white infants, black infants were five times more likely to die in 2010 as a result of complications of the placenta, cord and membrane; four times more likely to die as a result of SIDS and LBW; and three times more likely to die as a result of maternal complications of pregnancy.

Low birth weight infants, defined as infants with birth weights under 2500 grams, are at substantially higher risk of death than normal birth weight infants. The percentage of LBW infants, which had been increasing steadily in recent years, fell from 9.2% in 2009 to 8.8% in 2010, the lowest level since 2000. The percentage of LBW white infants decreased slightly, from 7.0% to 6.9%, while the percentage of LBW black infants fell from 13.0% to 12.0%.

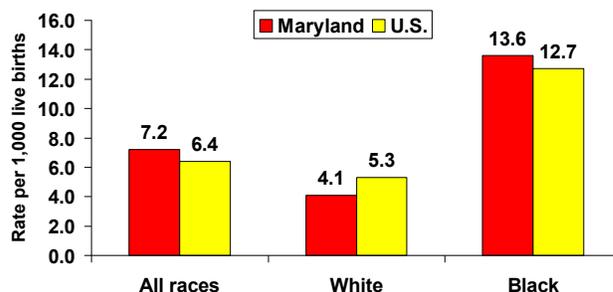
There were 43 SIDS deaths in 2010 compared with 61 in 2009, and the number of SIDS deaths declined among both white and black infants. Since very few Maryland resident SIDS deaths have occurred out of state in prior years, it is very unlikely that the unreported out of state cause of death data is responsible for this decline.

### Comparison of rates in Maryland and the U.S.

Maryland's infant mortality rate for all races combined has historically been higher than the national rate, mainly because the Maryland population is comprised of a higher proportion of black residents, a group with generally higher infant mortality rates than whites. Historically, white infant mortality rates have been lower in Maryland than in the nation. Black rates have been higher in Maryland than in the nation in recent years.

A comparison of infant mortality rates in Maryland and the U.S. in 2009, the most recent year for which preliminary national data are available, is shown in Figure C.

**Figure C. Infant Mortality Rates by Race, Maryland and the U.S., 2009.**



### Regional and county differences

The number of infant deaths and infant mortality rates by race, region and political subdivision are shown in Table 2. The statewide reduction in the infant mortality rate between 2009 and 2010 was largely driven by declines in Baltimore City, where the rate fell by 19%, and Montgomery County, where the rate fell by 22%. In terms of numbers, there were 30 fewer infant deaths in Baltimore City and 17 fewer infants deaths in Montgomery County in 2010 than in 2009.

Maryland's average infant mortality rate declined by a modest 4% between the periods 2001-2005 and 2006-

2010, with statistically significant declines occurring only in Garrett County and the National Capital Area, which comprises Montgomery and Prince George's County (Table 3). There was a statistically significant increase in the infant mortality rate in Dorchester County, where the average rate nearly doubled over the past decade. Rates have also risen by 20% or more over the past decade in Washington, Harford and Caroline Counties, although the increases were not statistically significant. These are all areas of the State where infant mortality rates have historically been below the State average.

**TABLE 2. INFANT DEATHS AND INFANT MORTALITY RATES BY RACE, REGION AND POLITICAL SUBDIVISION, MARYLAND, 2009 AND 2010.**

Region and political subdivision	ALL RACES				WHITE				BLACK			
	Number of infant deaths		Infant mortality rate*		Number of infant deaths		Infant mortality rate*		Number of infant deaths		Infant mortality rate*	
	2009	2010	2009	2010	2009	2010	2009	2010	2009	2010	2009	2010
<b>Maryland</b>	<b>541</b>	<b>496</b>	<b>7.2</b>	<b>6.7</b>	<b>177</b>	<b>178</b>	<b>4.1</b>	<b>4.1</b>	<b>343</b>	<b>295</b>	<b>13.6</b>	<b>11.8</b>
<b>Northwest Area</b>	<b>25</b>	<b>28</b>	<b>4.4</b>	<b>5.0</b>	<b>17</b>	<b>21</b>	<b>3.5</b>	<b>4.4</b>	<b>7</b>	<b>7</b>	<b>14.5</b>	<b>12.4</b>
Garrett	0	3	**	**	0	3	**	**	0	0	**	**
Allegany	1	5	**	6.8	1	5	**	7.1	0	0	**	**
Washington	13	11	7.4	6.2	8	6	5.2	4.0	5	5	30.9	25.0
Frederick	11	9	3.8	3.2	8	7	3.4	3.0	2	2	**	**
<b>Baltimore Metro Area</b>	<b>275</b>	<b>243</b>	<b>8.0</b>	<b>7.2</b>	<b>76</b>	<b>76</b>	<b>3.9</b>	<b>3.8</b>	<b>191</b>	<b>157</b>	<b>15.8</b>	<b>13.7</b>
Baltimore City	128	98	13.5	11.0	10	10	3.5	3.6	118	87	18.5	14.7
Baltimore County	73	66	7.4	6.7	21	26	3.6	4.4	48	36	15.3	11.6
Anne Arundel	35	33	4.9	4.7	22	18	4.1	3.3	12	14	9.0	10.9
Carroll	7	8	4.5	5.0	6	7	4.0	4.6	1	1	**	**
Howard	23	23	6.9	6.8	12	7	6.2	3.5	9	14	12.9	19.4
Harford	9	15	3.2	5.5	5	8	2.3	3.7	3	5	**	11.2
<b>National Capital Area</b>	<b>180</b>	<b>167</b>	<b>7.0</b>	<b>6.6</b>	<b>53</b>	<b>49</b>	<b>4.5</b>	<b>4.1</b>	<b>115</b>	<b>107</b>	<b>11.0</b>	<b>10.0</b>
Montgomery	74	57	5.5	4.3	33	27	3.9	3.3	30	20	10.7	7.0
Prince George's	106	110	8.7	9.0	20	22	6.0	5.8	85	87	11.1	11.1
<b>Southern Area</b>	<b>24</b>	<b>24</b>	<b>5.7</b>	<b>5.8</b>	<b>13</b>	<b>15</b>	<b>4.5</b>	<b>5.4</b>	<b>11</b>	<b>8</b>	<b>9.3</b>	<b>6.8</b>
Calvert	4	3	**	**	3	3	**	**	1	0	**	**
Charles	12	10	6.6	5.6	5	4	5.4	**	7	5	8.7	5.9
Saint Mary's	8	11	5.4	7.6	5	8	4.3	6.8	3	3	**	**
<b>Eastern Shore Area</b>	<b>37</b>	<b>34</b>	<b>7.3</b>	<b>6.9</b>	<b>18</b>	<b>17</b>	<b>4.5</b>	<b>4.5</b>	<b>19</b>	<b>16</b>	<b>19.0</b>	<b>15.1</b>
Cecil	4	7	**	5.9	4	3	**	**	0	3	**	**
Kent	2	0	**	**	1	0	**	**	1	0	**	**
Queen Anne's	3	5	**	10.3	1	4	**	**	2	1	**	**
Caroline	3	3	**	**	3	0	**	**	0	3	**	**
Talbot	1	1	**	**	1	1	**	**	0	0	**	**
Dorchester	9	4	21.9	**	3	1	**	**	6	3	40.8	**
Wicomico	12	7	9.1	5.6	4	3	**	**	8	4	18.9	**
Somerset	3	0	**	**	1	0	**	**	2	0	**	**
Worcester	0	7	**	16.7	0	5	**	15.3	0	2	**	**

\*Per 1,000 live births

\*\*Rates based on <5 deaths are not presented since rates based on small numbers are statistically unreliable.

**TABLE 3. NUMBER OF INFANT DEATHS, AVERAGE INFANT MORTALITY RATE BY FIVE YEAR INTERVAL AND PERCENT CHANGE IN RATES BETWEEN INTERVALS BY REGION AND POLITICAL SUBDIVISION, MARYLAND, 2001-2005 AND 2006-2010.**

Region and political subdivision	Number of infant deaths		Average infant mortality rate*		Percent change**
	2001-2005	2006-2010	2001-2005	2006-2010	
<b>Maryland</b>	<b>2930</b>	<b>2891</b>	<b>7.9</b>	<b>7.6</b>	<b>-4.1</b>
<b>Northwest Area</b>	<b>170</b>	<b>160</b>	<b>6.0</b>	<b>5.5</b>	<b>-8.3</b>
Garrett	16	6	10.0	4.1	-59.3 ***
Allegany	32	23	9.5	6.4	-32.1
Washington	43	60	5.1	6.5	28.0
Frederick	79	71	5.3	4.8	-9.6
<b>Baltimore Metro Area</b>	<b>1359</b>	<b>1382</b>	<b>8.1</b>	<b>7.9</b>	<b>-1.8</b>
Baltimore City	542	579	11.9	12.1	1.4
Baltimore County	373	358	8.0	7.1	-10.8
Anne Arundel	229	231	6.7	6.5	-3.2
Carroll	38	38	3.9	4.4	11.3
Howard	112	93	6.4	5.5	-14.6
Harford	65	83	4.4	5.7	28.0
<b>National Capital Area</b>	<b>1084</b>	<b>1002</b>	<b>8.4</b>	<b>7.7</b>	<b>-8.8</b> ***
Montgomery	405	387	6.1	5.7	-6.1
Prince George's	679	615	10.9	9.8	-10.1
<b>Southern Area</b>	<b>147</b>	<b>155</b>	<b>7.0</b>	<b>7.2</b>	<b>2.1</b>
Calvert	26	26	5.2	5.5	5.4
Charles	71	75	7.8	7.9	1.3
St. Mary's	50	54	7.4	7.4	0.0
<b>Eastern Shore Area</b>	<b>170</b>	<b>192</b>	<b>7.0</b>	<b>7.3</b>	<b>5.0</b>
Cecil	33	32	5.5	5.1	-8.3
Kent	10	5	11.6	5.3	-54.1
Queen Anne's	14	14	5.5	5.4	-2.4
Caroline	9	18	4.3	7.8	79.8
Talbot	7	8	3.9	4.4	11.8
Dorchester	15	36	8.9	17.5	95.9 ***
Wicomico	48	52	8.2	7.9	-3.9
Somerset	18	12	13.9	9.1	-34.9
Worcester	16	15	6.7	6.5	-3.6

\*Per 1000 live births.

\*\*Percent change is based on the exact rates and not the rounded rates presented here.

\*\*\*Rates for 2001-2005 and 2006-2010 differ significantly ( $p < .05$ ).



**Maryland Department of Health and Mental Hygiene  
Vital Statistics Administration**

Martin J. O'Malley, Governor, Anthony G. Brown, Lt. Governor, Joshua M. Sharfstein, M.D., Secretary, Isabelle Horon, Dr.P.H., Director, Vital Statistics Administration

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**Vital Statistics Administration**  
Maryland Department of Health and Mental Hygiene  
4201 Patterson Avenue  
Baltimore, MD 21215

Phone: 410-764-3514

or visit:

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